

The Institution of Engineers, Australia
 Sydney Engineering Heritage Committee
 Oral History Program
INTERVIEW TAPE LOG

Interviewee: Rodney Jeffery **Tape Numbers:** IEA SYD MT1 to MT5
Interviewer: Margaret Torrens **Number of Tapes:** 5
Place of Interview: Turramurra NSW
Date of Interview: 12 June 2003 and 17 July 2003
Restrictions on Use: None
Log prepared using (make and model of machine): Optimus CTR-107 (vox) tape recorder

Tape: IEA SYD: MT1 , Side A		
Time/ Counter	Subject	Proper Names & Keywords
005	Background –birth, family details, father's occupation	Wagga Wagga Moree
040	Discusses early schooling at Moree. Religious tensions. Aboriginal social conditions	
078	1949 Father ill. Family move to Sydney. Big changes in life.	
112	Schools attended in Sydney. Extended family home at Epping. Leaving Certificate in 1958. Subjects studied. Physics teacher's influence. Mother gave great encouragement in furthering education.	Our Lady Help of Christians Marist Brothers Eastwood
279	Application for scholarships, cadetships in Civil Engineering. Secured cadetship at Civil & Civic. University course discussed. Civil engineering studies during 1950s and early 1960s described.	University of New South Wales Civil Engineering
364	(1959) Cadetship and part-time study discussed. Types of students (eg mature age). Physical conditions at University of NSW. High failure rates.	Department of Main Roads. UNSW Ultimo. Civil & Civic.
501	1960 Left Civil & Civic and secured another cadetship as had received limited work experience with the firm. 1961 granted a scholarship for full time study. Worked during holidays. Studies completed 1963. Graduated 1964	(WCIC)Water Conservation and Irrigation Commission
590	Work experience with WCIC particularly for Year 3 project at UNSW. Description of Wyangala Dam project and own responsibilities.	Wyangala Dam
	End Side A Tape IEA SYD: MT1	

Tape: IEA SYD: MT1 , Side B		
Time/ Counter	Subject	Proper Names & Keywords
007	Further discussion on Year 3 project. Final studies.	Wyangala Dam
096	Construction engineer on earth dam repairs at Lake Cawndilla. Dispersive soils, compaction soil mechanics discussed. Primitive work conditions. Staff management, problems	Menindee Lakes Scheme. Lake Cawndilla
218	Technical solution for repairs to earth dam wall. Soils testing. Compaction testing	Compaction testing
277	Little knowledge at time at head office of compaction principles	Keith Stephenson
327	Description of management, staff, Aboriginal "gang" at Lake Cawndilla.	
412	Description of soil types, chemical problems, salt content, relative density. Technical solutions. Problems with management in Sydney understanding local on site needs and soil types.	Darling River, Lake Cawndilla Relative density
494	Central materials laboratory. Soils testing for dams and flood mitigation projects and irrigation channels. Disillusioned with Public Service.	Water Conservation and Irrigation Comm.
501	Resigned from WCIC. Applied and secured position as structural engineer in late 1965 at McDonald Constructions Pty Ltd. Description of position. Structural design responsibilities.	McDonald Constructions Pty Ltd
End side B, Tape IEA SYD: MT1.		

Tape: IEA SYD: MT2 , Side A		
Time/ Counter	Subject	Proper Names & Keywords
008	Structural engineering discussed. Tasks and project types	
035	Description of McDonald Constructions Pty Ltd and their engineering work. Design projects discussed. Retaining walls design.	McDonald Constructions P/L Pine Creek. Stanbark S.A.
080	Geotechnical engineering –definition and principles. Soil mechanics	Karl Terzaghi Ralph Peck
119	McDonald management. Liquidation of the company.	
136	Soil mechanics later known as geotechnology. Description.	David Coffey Coffey & Hollingsworth
150	1966-67 offered position as project engineer in Malaysia. Work involved soil mechanics and construction. Dams stored water for rice crops and major canal works. World Bank project. Joint venture with Malaysian interest and McDonald owned company.	Muda River Irrigation Scheme. Alor Setar. Kedah State. National Construction Company
205	Role in project: establishment of soils and concrete laboratory, training of indigenous people in drilling, purchase of drilling rigs.	Sir William Halcrow & Partners
230	Description of contracts let for Scheme. Political and security conditions. Safety issues.	
265	Supervision of drilling teams for soil samples for construction of earth walls for irrigation scheme. Marine clays. Building of canal embankments. Problems and testing required. Borrow areas described. Trials, monitoring and analysis of borrow area soils. Lengthy discussion	Peter James
364	Eighteen months on project. Description of completion of role.	
384	Communication easy as Malays employed were English speaking. Inheritance of British education system.	
415	Ownership of National Construction Company by McDonald Constructions Pty Ltd. Malaysian connection and token ownership by local Rajah. Social structure, racial mixtures and biases encountered at that time. Implication for project managed by Australian company.	
507	Australian work practices adapted to local environment.	
582	Part Malaysian ownership described and implications discussed. Blatant corruption existed in all areas.	Rajah Nazarin
End side A, Tape IEA SYD:MT2		

Tape: IEA SYD: MT2 , Side B		
Time/ Counter	Subject	Proper Names & Keywords
008	Moved to England late 1967 to study for Masters in Soil Mechanics. Had to wait until following September to enrol.	Imperial College of London University U.K. Profs. Skempton & English
073	Applied for job with construction company while waiting to enrol	Cementation Co. London
084	Company involved with vibroflotation techniques. Description of design and construction including load testing. Job description and mention of projects mainly in north of England on industrial sites and the demolition of industrial buildings	Vibroflotation Manchester Liverpool Northern Ireland
147	Married July 1968. Enrolled in College September 1968. Dual qualifications: Diploma and Masters degree (with distinction) in Soil Mechanics. Description of College courses. Financially supported by wife	Grad. Diploma Masters in Soil Mechanics Imperial College, London University
236	Thesis topic, dissertation: "Relationship between standard penetration tests, Dutch cone penetration tests and soil parameters" Practical thesis used in later work. Discussion of South American research. Criticism of insular outlook of local (U.K) academics.	
335	Uncomfortable with English management style and social attitudes. Returned to Australia in 1969.	
391	Offered a job with Coffey and Hollingsworth as senior geotechnical engineer. Uninterested in office work. Offered work in Tasmania by C & H. Job description – building of dams. Soil mechanics technology. Methodology.	Coffey and Hollingsworth Renison Dam Zeehan Tasmania
493	Offered work then in Western Australia (1970-1971). Paraburdoo Mine required (1) one of world's heaviest loaded rail lines. Role: continuing investigations involving soil testing, borrow sites and assessment of suitability of large cuts. (2) Building of airfield to international standards. Compaction, design, loading demands. Role: setting up of soil testing laboratories and infrastructure.	Paraburdoo Mine Western Australia Hamersley Iron Ore Tom Price compaction soil testing
641	1972 returned to Sydney as senior technical engineer with C & H. Involved with reports and site investigations in Brisbane. Separation of firm's partnership occurs.	Brisbane
End side B, Tape IEA SYD: MT2		

Tape: IEA SYD: MT3 , Side A		
Time/ Counter	Subject	Proper Names & Keywords
010	Coffey & Hollingsworth ignore advice from field engineers, especially at Paraburdoo regarding local working conditions and requirements	Coffey & Hollingsworth Paraburdoo
045	Resigned from C & H. Appointed as NSW manager of L.T. Frazer & Associates (1973) Undertook feasibility studies for subdivisions, letting of contracts for and supervision of building subdivisions. Economic recession. Started geotechnical laboratory within Scott & Furphy another division of firm.	Kaiser Etana Scott & Furphy
094	Commenced partnership in 1976 in own (geotechnical) engineering company. Description of early days working from home garages and undertaking all operations on the job: drilling, engineer's offsider, labouring. Slow start because of recession. Advantaged as knew local Sydney engineering scene.	Don Katauskas Ross Lovatt
172	Vision for own geotechnical company discussed. Developed clientele from private firms rather than government agencies. Flexibility main principle.	Jeffery & Katauskas
223	Developed a substantial laboratory for testing of variety of materials including asphalt.	
233	Revolutionary decision to start own drilling company as separate entity to consultancy, mainly for economic reasons and for efficiency of consultancy projects.	Soil Check Pty Ltd Paul Stubbs
303	Note main opposition to Soil Check	Douglas Partners. Frankipile. Ground Test.
344	Growth of Jeffery & Katauskas. Description of development in buildings, drill rigs and laboratories . Change of sites as company grew: Lindfield, Roseville, Gladesville. Staff component/laboratory/equipment housing at Gladesville site.	Jeffery & Katauskas
414	Development of environmental engineering led to investigations of contaminated sites involving geotechnology. Developed own environmental engineering branch at Gladesville site.	
431	Description of environmental engineering and firm's involvement in this new field of work. Environmental engineering was a growing area of concern due to environmental legislation in the 1990s.	Environmental engineering
504	Increased number of courses in environmental engineering lures students away from geotechnology.	
520	Strong in –house training and high standards of output and work ethics emphasised at Jeffery & Katauskas. Consequently their engineers were highly sought after by other firms.	
550	Strong reputation for quality assurance and risk management policy. Ahead of their time in these	

	practices	
578	Discussion and criticism of training ethics and methods in academia.	
578	Changes in technology e.g. use of computers for analysis.	analysis by computer
End side A, Tape IEA SYD: MT3		

Tape: IEA SYD: MT3 , Side B		
Time/Counter	Subject	Proper Names & Keywords
010	Interesting and varied operations undertaken by Jeffery & Katauskas – investigating and replacing rail bridges in NSW; geotechnical projects on large industrial and commercial sites in Sydney. Description of difficulties and geotechnical problems encountered e.g. retention operations, underpinning, failure studies.	
060	Expert witness in court cases – general discussion.	
100	Major projects undertaken by Jeffery & Katauskas. Recognition of Sydney dykes and development of more sophisticated drilling techniques. Discussion.	Sydney Entertainment Centre. Sydney's dykes
147	Large excavations on Star City Casino; excavation sites in North Sydney CBD – general discussion of local geology of Sydney coastal areas in eastern suburbs of Sydney, including excavation and development in sand areas . Discussion of techniques including digging of internal wells.	North Sydney Eastern Suburbs of Sydney
206	Sydney 2000 Olympic site – commissions for geotechnical investigations -description	New Showground Homebush site
295	Retirement: acting as consultant and expert witness for J& K and Unisearch.	Unisearch
375	Discussion of papers and publications (listed in biographical notes). Two papers delivered in 2003. (Building Science Forum; Public Engineers Conference).	Professor Robin Fell
449	Discussion of use of recycled rubber in geotechnical construction.	Ecoflex Garry Callaghan
480	The major contributions made to engineering profession including the development of a prestigious and highly professional engineering company. Achievements and professional ethics of Jeffery & Katauskas.	Jeffery and Katauskas
578	Award system in engineering profession. Sole submission for J&K was Milson's Cottage at North Sydney.	
End side B, Tape IEA SYD: MT3		

Tape: IEA SYD: MT4 , Side A		
Time/ Counter	Subject	Proper Names & Keywords
021	Definition of and evolution of Geotechnical engineering and its relationship with Soil Mechanics and Rock Mechanics. Overview of the necessity for the combination of these sciences as required by construction of larger buildings and deeper excavation, especially in mining. Knowledge in each of these areas to be broader based with evolution of processes such as pile construction.	Karl Terzaghi Geotechnology Soils Mechanics Rock Mechanics pile construction
172	Evolution of geotechnical investigations and equipment used (from backhoes to hydraulic excavators) giving examples from career, from Menindee to retirement (2000). Modern techniques with large test pits. Increased automation. Australia in forefront with use of available modern technology more readily than other western countries. Changes in equipment with J&K: (1) modification of base of excavator into track rig; (2) Dutch cone penetration testing now computerised; (3) Excavators now small and with rock breakers.	spiral augers. hydraulic excavators. large test pits. Southern Cross. spiral auger rigs. track rig probe testing
366	Australian engineering industry has been quick to take advantage of world's best in equipment and improve on it. Not as traditional or constrained as Europe and United States	
421	Discussion of acquisition of equipment by J&K from early days working from a garage to establishment and development of own drilling company.	Soil Check Pty Ltd
488	J&K project work broadly outlined and own involvement. Technical/ administration and management/ money management and DIY superannuation fund/laboratory and earthworks testing/staff training.	responsibilities and duties in Jeffery & Katauskas
553	Recognition of Sydney's dykes a first. Modification of drilling techniques and impact on engineering design by these dykes.	Entertainment Centre. Sydney dykes
652	In ACT J&K initiated economical means to carry out exploratory investigations on rocks during large roads and railway construction. Relationship between moisture content and rock strength.	moisture content. tungsten carbide bit.
End side A, Tape IEA SYD: MT4		

Tape: IEA SYD: MT4 , Side B		
Time/ Counter	Subject	Proper Names & Keywords
020	Accurate predictions on rock quality and strength in ACT projects. Contracts let as result. Methodology, used frequently in Sydney, outlined. Environmental	rock quality and strength moisture content tungsten bit drilling

	conditions. J&K used own rigs, better results, more work therefore on commercial basis.	
073	Overlap between civil designer and geotechnical engineer . Types of projects undertaken: earthworks analysis; occasionally design, procedure and supervision of same; footings when required by Local Council regulations. Latter usually structural engineers realm, so did not want to stop work offered to J&K by these engineers. Professional indemnity also a consideration.	Civil design Geotechnical engineering overlap
115	Innovative work: identification of dispersive soils, their nature and identification of problems for design and construction in the western Sydney area of Campbelltown to Ingleburn. Description of dispersive soils. Erosion and piping, low moisture, low density from landfill used. Drought conditions. Joint study with UNSW. Aware of problem for Sydney for many years. Lack of recognition of dispersive soils has led to litigation. Urban and rural salinity.	Dispersive soils Bow Bowing Canal Professor Owen Ingles salinity
296	Identification of other problem areas and projects affected as a result of dispersive soils, including earth dams, deep fill sites, and various Olympic sites including rigid earthworks near main stadium and seating construction at Showground . Detailed overview.	compacted fill shrink and swell Olympic Equestrian Centre Olympic Shooting Centre Bringelly Shales Homebush Olympic site
452	Changes in work practices and techniques in Sydney identified: status of consultants; litigation; indemnity insurance.	consultancy litigation
End side B, Tape IEA SYD: MT4		

Tape: IEA SYD: MT5 , Side A		
Time/ Counter	Subject	Proper Names & Keywords
030	(Changes cont.) Litigation problems (cont.). Insurance companies' attitudes. Legal costs. Issue: Insured has to pay legal costs but use legal nominated by insurer.	litigation
078	Risk management more important in consultancy work as consequence of litigation.	
112	Engineers' lobby groups. Considers court systems antiquated.	
140	(Changes cont.) Risk management and public indemnity. More women in geotechnical and environmental engineering. Reasons .	women engineers
200	(Changes cont.) Electronic technology as aid to engineering – strengths e.g. Slope stability analysis; - weaknesses e.g. email insecurity and distortion of data.	computers. slope stability analysis
316	Geotechnology growth into distinct specialty and requirement in contemporary construction.	geotechnology as specialty
353	Description of 'dewatering " method in 3 level basement excavations in Rose Bay adjacent to commercial area. A "first" for Sydney.	"dewatering" method. contiguous pile walls. vertical re-injection wells.
500	On site communication problems often between builders and engineers, engineers and engineers, because of different work backgrounds. Risk management implications.	
567	Expert witness experience outlined. Duties of expert witness. Critical of court structure.	Expert witness
End side A, Tape IEA SYD: MT5		

Tape: IEA SYD: MT5 , Side B		
Time/ Counter	Subject	Proper Names & Keywords
020	Court system (cont.) Gradual awareness for need to use layman's language in court. Description of position of Court Referee. Problems encountered. Archaic system led to unsatisfactory collection of opinions. Guidelines of Institution of Engineers. Federal Court Code (mid 1990s) now adopted by NSW Courts. Strict impartiality requirements outlined. Danger of influence from vested interests noted.	Expert witness guidelines.
197	Overview of types of and experience in court cases as expert witness. Cowra case	Cowra
285	Summary of career from early experience in Civil Engineering, Soil mechanics, Geotechnology.	
End side B, Tape IEA SYD: MT5		